

CASSETTE CAR STEREO
WITH FM/AM ELECTRONIC TUNER

SUPER TUNER

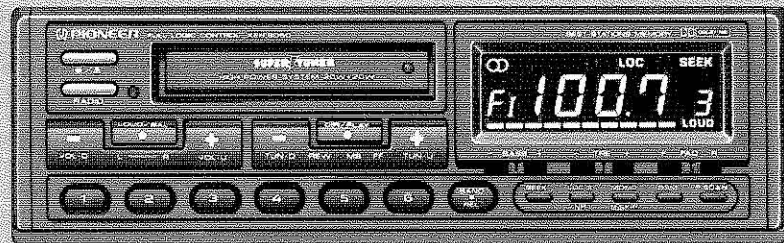
OWNER'S MANUAL

Thank you for purchasing this PIONEER product. Before attempting operation, be sure to read this manual.

Nous vous remercions d'avoir acheté cet appareil PIONEER. Avant de l'utiliser, prendre soin de lire ce manuel.

Muchas gracias por la adquisición de este producto PIONEER. Antes de tratar de operarlo, lea atentamente este manual.


شكراً لك على شرائك جهاز يابونير هذا. قبل محاولة تشغيله تأكد من قراءة هذا الدليل.



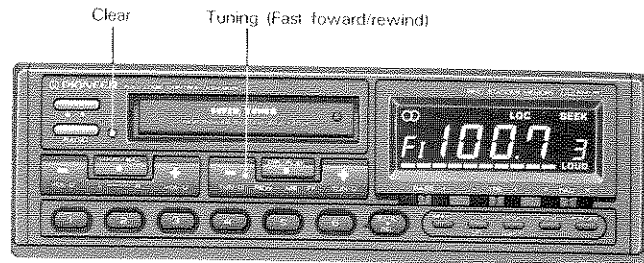
PIONEER

KEH-1-8050

Features

- Built-in highly sensitive "Super Tuner" for automatic control of stereo separation, muting, and frequency characteristics to match the strength of the FM signal.
- The Best Stations Memory automatically memorizes the six best (strongest) stations in the six preset buttons in the order of their strength.
- For AM reception, a tuning step is switchable to the other according to the zonal frequency range.
- Music search function allows automatic playback from the beginning of the selection being played or the beginning of the next selection.
- When a long unrecorded interval is found between two selections, the Blank Skip function takes the tape directly to the beginning of the following selection.
- Power loading mechanism for automatic loading of tapes and soft eject mechanism provide easy operation.
- Auto tape selector mechanism senses and adjusts the unit for 70 μ s tapes.
- Built-in Dolby NR for reduced tape hiss.
- 20 W + 20 W maximum output for sound with power to spare. Combination with separately available power amp unit allows configuration of a powerful 4-speaker system.
- Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation. "DOLBY" and the double-D symbol  are trademarks of Dolby Laboratories Licensing Corporation.

Switching the Tuning Steps



• Changing the tuning step

The tuning steps of the AM band for this unit can be switched between 9 kHz and 10 kHz per step. The tuning step should be switched from 9 kHz (which is preset at the factory) to 10 kHz when this unit is used in North America, Central America, or South America.

1. Turn the ignition switch off.
 2. While pressing both the right and the left sides of the tuning (fast forward/rewind) button, turn the ignition switch on. It should be noted that changing the tuning step also deletes frequencies stored in the tuning memories.
- Pressing the clear button and changing the vehicle's battery set the tuning steps and frequency range settings to their initial setting.

	Specification	Initial Setting	New Setting
AM	Tuning steps	9 kHz steps	10 kHz steps
	Frequency range	531 — 1,602 kHz	530 — 1,620 kHz

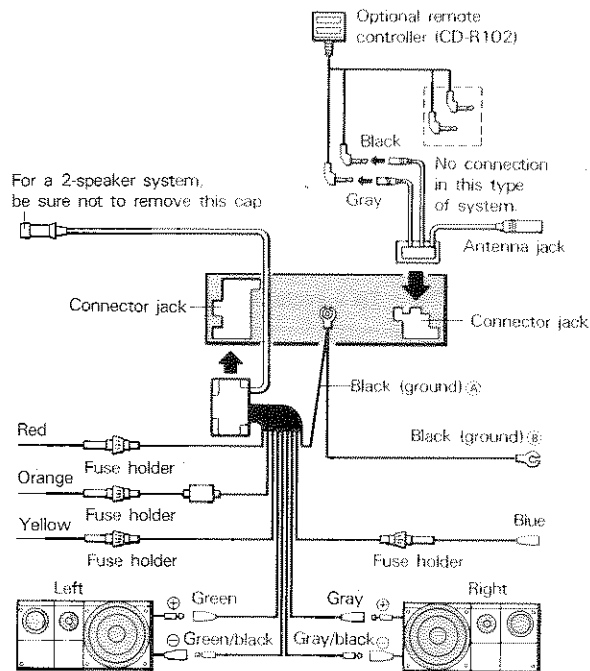
Connections

Note:

- To avoid shorts in the electrical system, be sure to disconnect the battery \ominus cable before beginning installation.
- Replace fuses only with the types stipulated on the fuse holder.
- Be sure to properly connect the color coded leads. Failure to do so can cause malfunctions.
- Since a unique BPTL circuit is employed, never wire so the speaker leads are directly grounded or the left and right speaker \ominus leads are common.
- Speakers connected to this unit must be high-power type possessing maximum input of at least 20 W and impedance of 4 to 8 ohms. Connecting speakers with output and/or impedance values other than those noted here can damage the speakers.

Red	To electric terminal controlled by ignition switch (12 V DC) ON/OFF.
Orange	To terminal always supplied with power regardless of ignition switch position.
Yellow	To lighting switch terminal.
Black (ground) (A)	To car stereo's chassis.
Black (ground) (B)	To vehicle (metal) body.
Blue	To auto-antenna power terminal (Max. 300 mA 12 V DC).

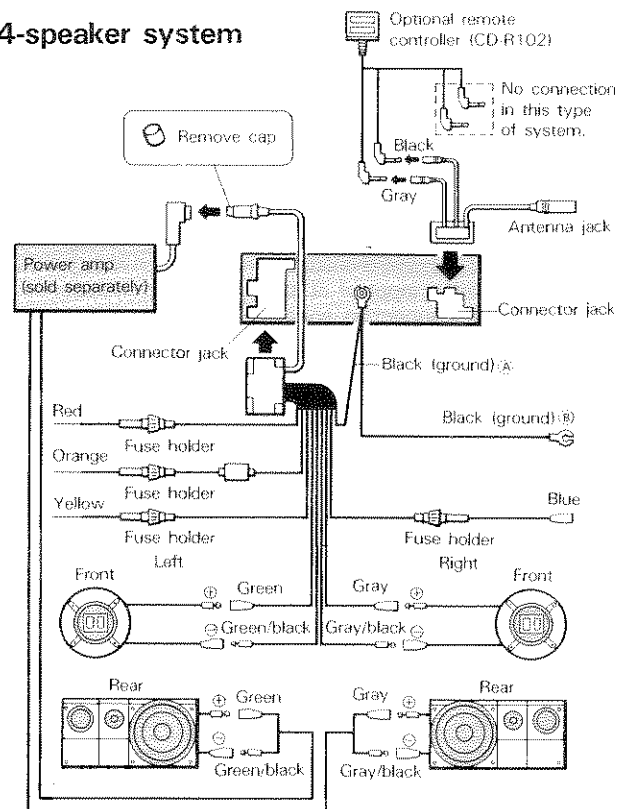
2-speaker system



- See the respective power amp owner's manual for detailed wiring (power supply, etc.) information.

Red	To electric terminal controlled by ignition switch (12 V DC) ON/OFF.
Orange	To terminal always supplied with power regardless of ignition switch position.
Yellow	To lighting switch terminal.
Black (ground) (A)	To car stereo's chassis.
Black (ground) (B)	To vehicle (metal) body.
Blue	To auto-antenna power terminal (Max. 300 mA 12 V DC).

4-speaker system



Installation

Note:

- Use only the parts included with the unit to ensure proper installation. The use of unauthorized parts can cause malfunctions.
- Consult with your nearest dealer if installation requires the drilling of holes or other modifications of the vehicle.
- If installation angle exceeds 30° from horizontal, the unit might not give its optimum performance. (Fig. 1)

- When the Quick Release Mounting Bracket (sold separately) is used, be sure to load one of the mercury batteries (sold separately) listed below into the battery compartment in the back of the unit.

National/Panasonic	PX-23/5.6 V
Union Carbide Corporation (Eveready)	EPX23/5.6 V
Duracel/Inc.	PX23/5.6 V
VARTA Batterie AG	V23PX/5.6 V
Ray-O-Vac Company	RPX-23/5.6 V

Installation with the rubber bush

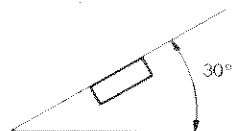
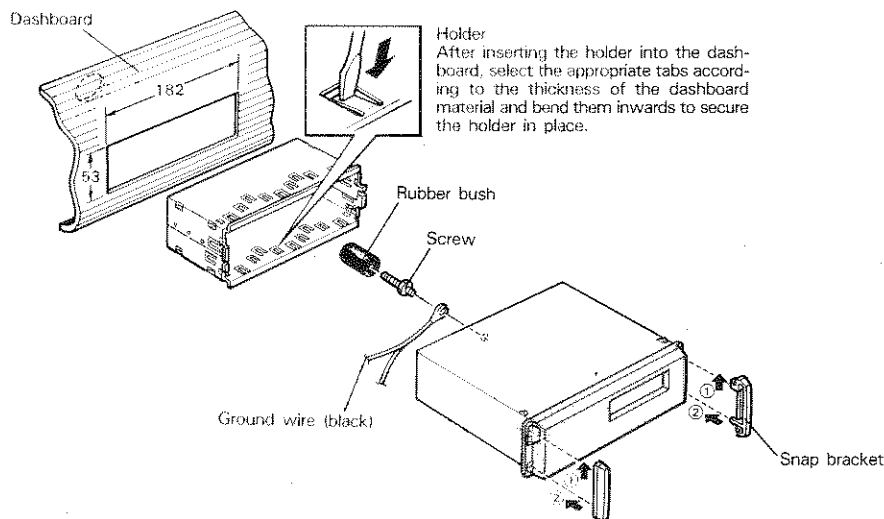
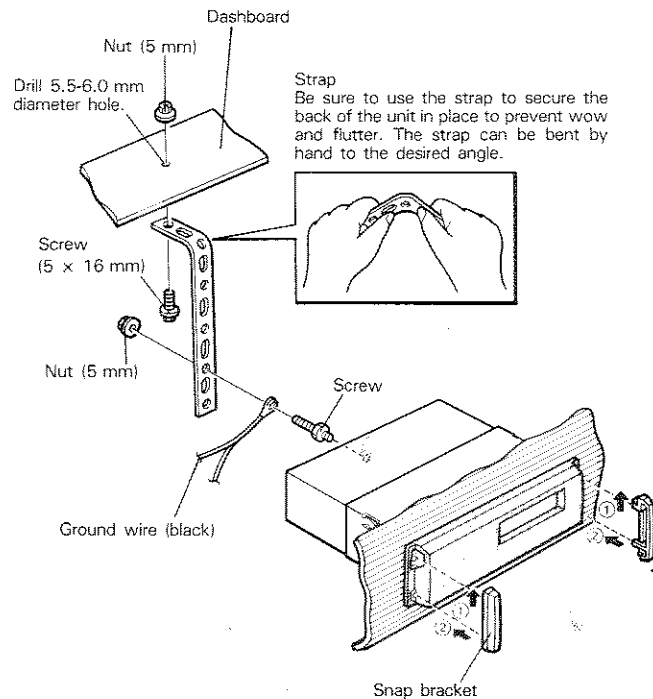
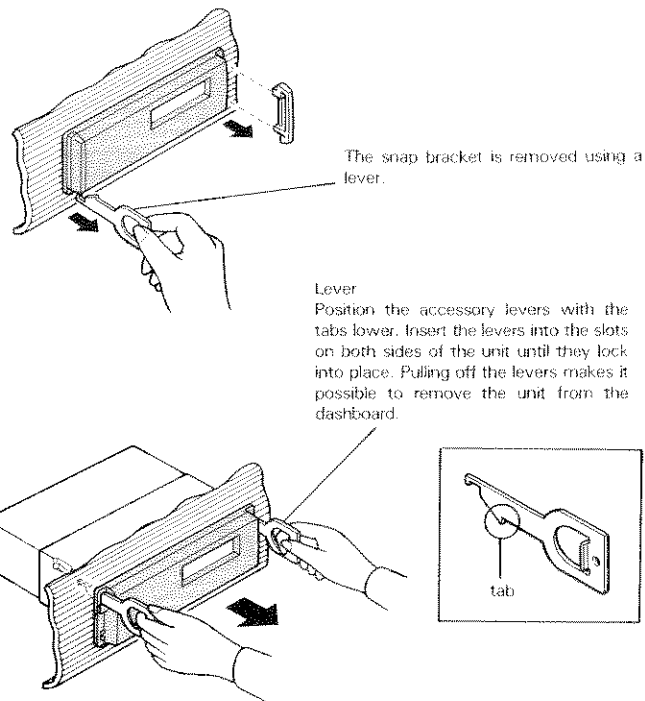


Fig. 1

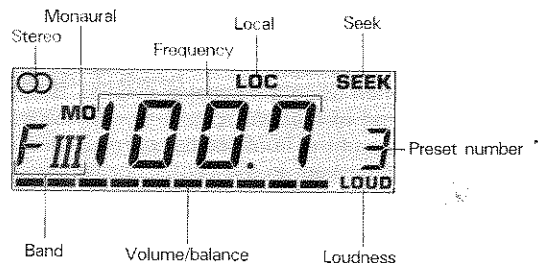
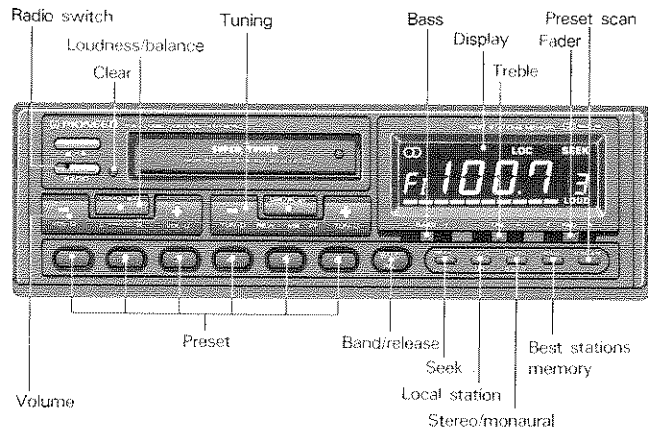
Installation without the rubber bush



Removing the unit



Using the Radio



• Before attempting operation...

- Set the fader control to the center position. (A click can be felt when the lever is in the center position.)
- Press the radio switch to turn on power and display the frequency.
- Press the band switch and the seek tuning indicator will be displayed.
- Press either the left or right side of the tuning button to tune in the desired frequency. (Pressing the right side will increase the frequency.)
- Adjust the volume. Pressing right side increases volume while left side decreases volume.
- Adjust the balance. Press the balance button for approximately 2 seconds until a beep is heard, and display changes to the balance display. At this time, pressing the right side of the volume button causes a decrease in the output of the left speakers, while pressing the left side decrease right speaker output. Pressing the balance button again for approximately 2 seconds causes a beep to sound and the unit to return to the volume display. The unit will also return to the volume display automatically after approximately 10 seconds.
- Adjust the tone.

- **To enter a frequency into the preset memory...**

8. Pressing one of the preset buttons (1 — 6) for approximately 2 seconds stores the frequency to the memory of the button pressed. Then a beep sounds to indicate that the frequency is successfully stored.

Six FM1 frequencies, six FM2 frequencies, six FM3 frequencies and six AM frequencies can be entered.

- **Best Stations Memory Button**

Automatically tunes strong frequencies and assigns them to preset buttons 1 through 6 for one-touch automatic tuning. The best stations memory function is activated by pressing this button for approximately 2 seconds. The best stations memory function is indicated by — — — flashing on the display, and this function can be canceled by pressing the release button. The frequency display returns once the best stations memory function is complete. The frequency displayed at this time is of the strongest station assigned to preset button 1 by the best stations memory function.

- 6 best (strongest) frequencies are memorized in the 6 preset buttons in the order of their strength, the strongest one being assigned to preset button 1.
- The frequencies previously assigned to the preset buttons are retained when 6 frequencies cannot be located.
- The best stations memory is in operation while — — — is flashing on the display.

- **Stereo/Monaural Switch**

This switch is used to change from stereo to monaural for FM broadcasts, and is usually left in the stereo position. When a stereo broadcast is received, the stereo indicator will illuminate. With the "Super Tuner" function, stereo broadcasts can always be enjoyed in their optimal reception mode. If excessive noise is present, pressing this switch allows monaural reception of the broadcast.

- **Local station switch**

Pressing this switch increases the seek threshold level so that only relatively strong stations can be tuned in (local indicator will illuminate on the display). Local seek threshold level can be selected among four levels for FM and two levels for AM. Holding this switch down for approximately 2 seconds and then pressing the right side of the tuning button changes the display from L-1, L-2, L-3 to L-4. Pressing the left side of the tuning button changes the display from L-4, L-3, L-2 to L-1 (L-1 and L-2 for AM). The bigger the number, the higher the seek threshold becomes and only relatively strong stations can be tuned in.

- **Fader Control**

This control is used to adjust the balance between the front and rear speakers when using a 4-speaker system. Sliding towards F cuts the volume of the rear speakers, while sliding towards R cuts the volume of the front speakers. For 2-speaker system, this lever should be kept in the center position.

- **Loudness Switch**

When playing back a tape or listening to the radio at low volume, the low and high tones are emphasized and more clearly heard by pressing this switch.

- **Clear Button**

Not used for normal operation, this button is pressed using a thin, pointed object to reset the unit when such symptoms as power supply failure, operation button failure, and abnormal display indicate misoperation of the unit's built-in microcomputer caused by noise. The memory will be erased if this button is pressed. When the button is pressed, the unit may switch back to the 9 kHz step. In that case, reset to 10 kHz, if necessary.

Seek Tuning

Press the seek button, and tuning to the next higher or lower broadcast on the band can be accomplished automatically by simply pressing either the right or left side of the tuning button. FM frequencies change in 50 kHz steps while those in the AM band change in 9 kHz steps.

- AM frequencies are tuned in 10 kHz steps after the tuning steps are changed.

Preset Scan Tuning

Pressing the preset scan button (Preset number indicator flashes) causes previously stored frequencies to be tuned in sequentially for eight seconds each. Press again when the desired frequency is tuned in to cancel preset scan tuning.

Preset Tuning

Pressing the preset button instantly tunes in the frequency programmed in the memory for that button.

Manual Tuning

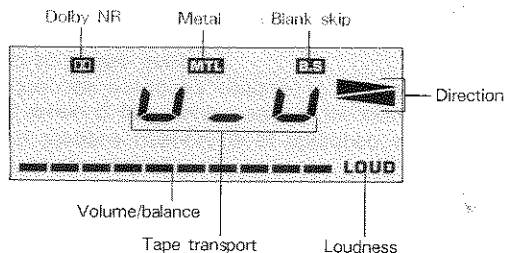
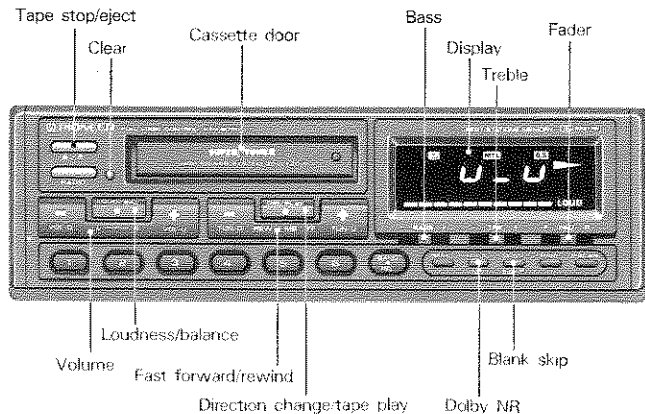
When manual tuning is employed, FM frequencies change in 50 kHz steps, while AM frequencies change in 9 kHz steps.

- AM frequencies are tuned in 10 kHz steps after the tuning steps are changed.
1. Press the seek button and the seek tuning indicator will disappear from the display.
 2. Change the frequency by pressing either the left or right side of the tuning button. Pressing the button once will change the frequency one step (see above). Continuously depressing either side of the button will successively change the frequency at the prescribed step.

- **System Remote Control Unit CD-R102 (Option)**

Connection of the optional CD-R102 system remote control unit allows remote control of volume and tuning within easy reach.

Using the Tape Deck



• Before attempting operation...

- Set the fader control to the center position. (A click can be felt when the lever is in the center position.)
1. Insert a cassette partway into the tape slot until the mechanism takes over to automatically set the cassette and begin playback. The unit automatically switches over to tape play even if the power of the radio is ON.
 2. Adjust the volume. Pressing right side increases volume while left side decreases volume.
 3. Adjust the balance. Press the balance button for approximately 2 seconds until a beep is heard, and display changes to the balance display. At this time, pressing the right side of the volume button causes a decrease in the output of the left speakers, while pressing the left side decrease right speaker output. Pressing the balance button again for approximately 2 seconds causes a beep to sound and the unit to return to the volume display. The unit will also return to the volume display automatically after approximately 10 seconds.
 4. When tape playback reaches the end of the tape, playback will automatically switch from the side being played to the opposite side (i.e. Side A to Side B or vice versa) (Auto-reverse). Press the tape stop/eject button to terminate tape playback at any time, and the tape play button to resume playback.
 5. Press the tape stop/eject button twice to eject cassette.

- The cassette tape will automatically be ejected after a few seconds if it fails to be set. Reinsert the tape and try to set it again.
- A loose or warped label on a cassette tape may interfere with the eject mechanism of the unit or cause the cassette to become jammed in the unit. Avoid using such tapes or remove such labels from the cassette before attempting use.

• Fast Forward/Rewind

Press the right side for fast forward and the left side for rewind. Pressing twice performs music search, while pressing a third time returns to normal playback.

• Direction Change Button

This button is used to switch from one side of the tape to the other (from Side A to Side B or vice versa).

• Auto Tape Selector

The equalizer automatically switches between 70 μ s and 120 μ s in accordance with the type of tape being used. 70 μ s tapes have a hole on the half of the cassette which is detected by the unit. Using a metal or chrome tape causes the metal indicator to appear on the display. Nothing is displayed when normal tapes are used.

• Dolby NR Switch

Press when playing a tape recorded with Dolby NR.

• Blank Skip Button

Causes playback to move at high speed over lengthy unrecorded portions of the tape (longer than 10 seconds) to the point at which the recorded portion resumes. The blank skip indicator appears on the display when this button is pressed.

• Clear Button

Not used for normal operation, this button is pressed using a thin, pointed object to reset the unit when such symptoms as power supply failure, operation button failure, and abnormal display indicate misoperation of the unit's built-in microcomputer caused by noise. The memory will be erased if this button is pressed. When the button is pressed, the unit may switch back to the 9 kHz step. In that case, reset to 10 kHz, if necessary.

Music Search

Music search is convenient for replaying the selection you are listening to or advancing instantly to the beginning of next selection.

Playing Selection A again from the Beginning

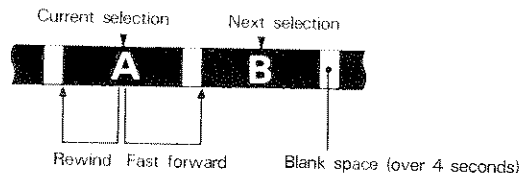
Press the rewind button (left side) twice. (direction indicator flashes on display.) The unit will automatically locate the beginning of selection A and normal playback will begin.

- Press the fast forward button (right side) twice in succession for music search in the forward direction. (direction indicator flashes on display.)

Care and Maintenance

The following errors will cause the music search function to operate improperly, even though the unit is not malfunctioning.

- Unrecorded "blank" portions between selections is less than 4 seconds \Rightarrow the blank portion cannot be detected by the unit.
- Pauses in recorded conversations are longer than 4 seconds \Rightarrow the unit reads these as blanks between selections.
- Portions are recorded at very low volume for more than 4 seconds \Rightarrow the unit reads these as blanks between selections.



• System Remote Control Unit CD-R102 (Option)

Connection of the optional CD-R102 system remote control unit allows remote control of volume, fast forward, rewind, and music search within easy reach.

- Do not use tapes longer than C-90-type (90 min.) cassettes. Longer tapes can interfere with tape transport.
- If the playback head becomes dirty, sound quality will suffer. Periodically (once or twice a month) clean the heads with a cotton swab soaked with alcohol. (Fig. 1)
- Storing cassettes in areas directly exposed to sunlight or high temperatures can distort them and subsequently interfere with tape transport. (Fig. 2)
- Store unused tapes in a tape case where there is no danger of them becoming loose or being exposed to dust.
- If the car's battery is disconnected for any reason the preset memory will be erased and must be reprogrammed after reconnection of the battery.
- **After Service**

In the event this unit does not function properly, contact your dealer or the nearest authorized PIONEER Service Center.

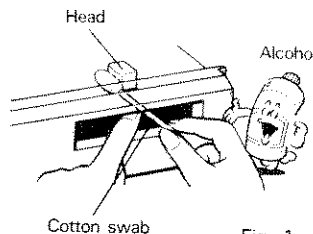


Fig. 1

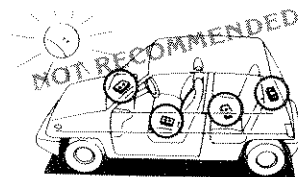


Fig. 2

Specifications

General

Power source	14.4 V DC (10.8—15.6 V allowable)
Grounding system	Negative type
Max. current consumption	5.0 A
Dimensions (chassis)	178(W) × 50(H) × 150(D) mm
(nose)	188(W) × 58(H) × 10(D) mm
Weight	1.4 kg

Amplifier

Maximum power output	20 W + 20 W (EIAJ)
Continuous power output	11 W + 11 W (1% dist. at 1 kHz)
Load impedance	4 Ω (4—8 Ω allowable)
Max. output level/ output impedance (pre out)	500 mV/1 kΩ
Tone controls (bass)	±10 dB (100 Hz)
(treble)	±10 dB (10 kHz)
Loudness contour	+12 dB (100 Hz), +7 dB (10 kHz) (volume: -30 dB)

Tape player

Tape	Compact cassette tape (C-30—C-90)
Tape speed	4.8 cm/sec.
Fast forward/rewind time	Approx. 100 sec. for C-60
Wow & flutter	0.09% (WRMS)
Frequency response	Metal: 50—19,000 Hz (±3 dB) Normal: 50—16,000 Hz (±3 dB)
Stereo separation	45 dB
Signal-to-noise ratio	Dolby NR IN: 60 dB (IEC-A network) Dolby NR OUT: 52 dB (IEC-A network)

FM tuner

Frequency range	87.5—108 MHz (50 kHz)
Usable sensitivity	12 dBf (1.1 μV/75 Ω, mono)
50 dB quieting sensitivity	17 dBf (1.9 μV/75 Ω, mono)
Signal-to-noise ratio	70 dB (IEC-A network)
Distortion	0.3% (at 65 dBf, 1 kHz, stereo)
Frequency response	50—15,000 Hz (±3 dB)
Stereo separation	40 dB (at 65 dBf, 1 kHz)
Selectivity	70 dB (2ACA) (±400 kHz)

AM tuner

Frequency range	
(9 kHz channel step)	531—1,602 kHz (9 kHz)
(10 kHz channel step)	530—1,620 kHz (10 kHz)
Usable sensitivity	18 μV (25 dB) (S/N: 20 dB)
Selectivity (9 kHz channel step)	50 dB (±9 kHz)
(10 kHz channel step)	50 dB (±10 kHz)

Note:

Specifications and the design are subject to possible modification without notice due to improvements.

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